



BILL & MELINDA
GATES *foundation*

Innovative Approaches to Solving Global Health Challenges in Low- and Middle-Income Countries

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President, Global Development
Bill & Melinda Gates Foundation

August 2019



ALL LIVES HAVE EQUAL VALUE

An introduction to the Bill & Melinda Gates Foundation

BILL & MELINDA
GATES foundation

FOCUSING ON
THE AREAS OF

**GREATEST
NEED**

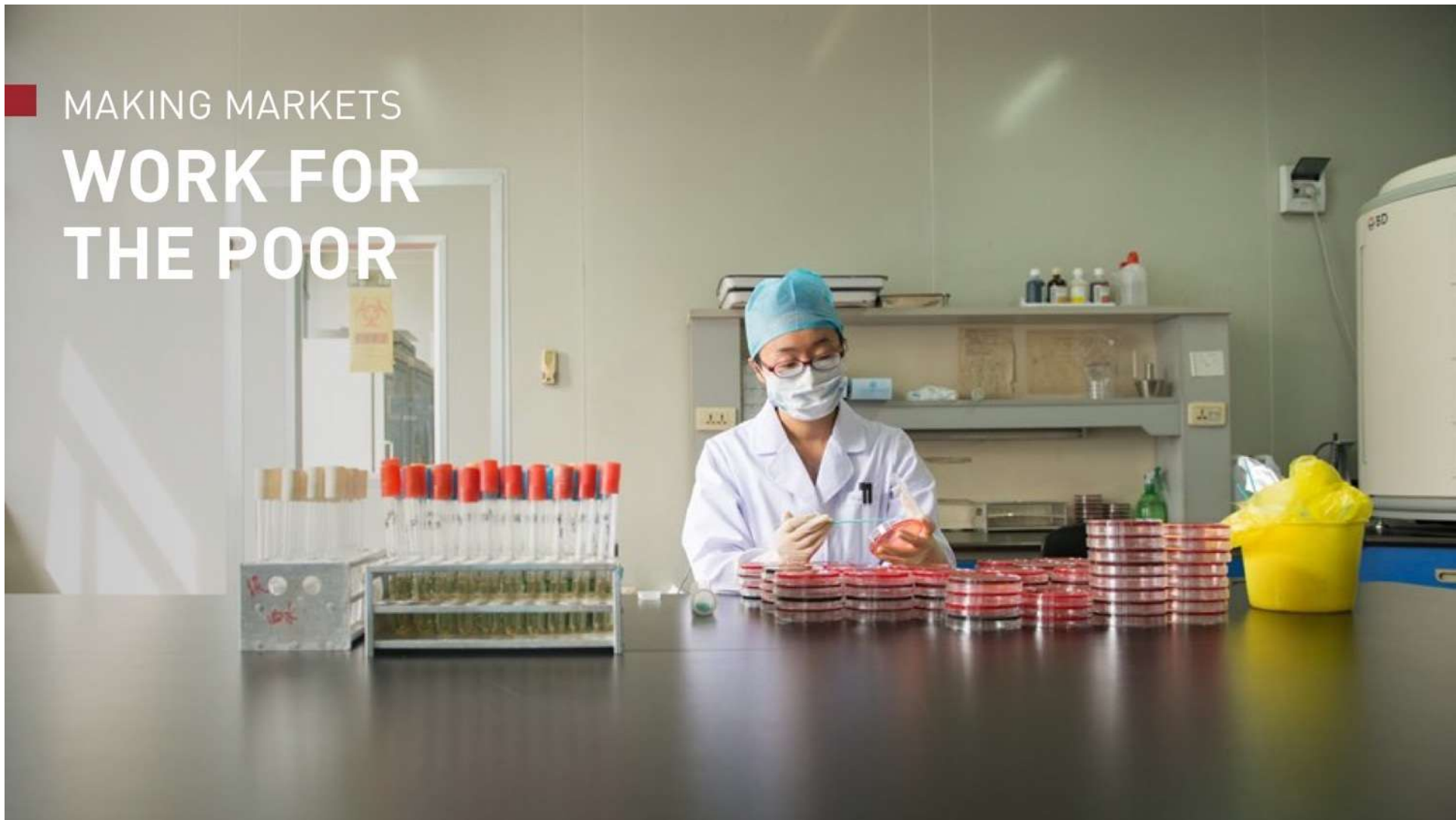


TAKING RISKS

THAT OTHERS
CAN'T OR WON'T



MAKING MARKETS
**WORK FOR
THE POOR**



■ HOW WE DO WHAT WE DO



Grantees and partners are at the center of our work



Together, we take risks, push for new solutions and harness the power of science and technology



This work requires support from governments, the private sector, communities, nonprofits, and individuals

■ WHAT WE DO

The foundation has four missions that help us achieve our vision of a world where every person has the opportunity to live a healthy, productive life:



Ensure more children and young people survive and thrive



Empower the poorest, especially women and girls, to transform their lives



Combat infectious diseases that particularly affect the poorest



Inspire people to take action to change the world

FOUNDATION FUNDING SUMMARY

In 2018, the foundation invested US \$5.0 billion in these areas

Numbers include grants and direct charitable expenses (DCE), but do not include Program Related Investments (PRIs)

Global Development **\$1,817,000**

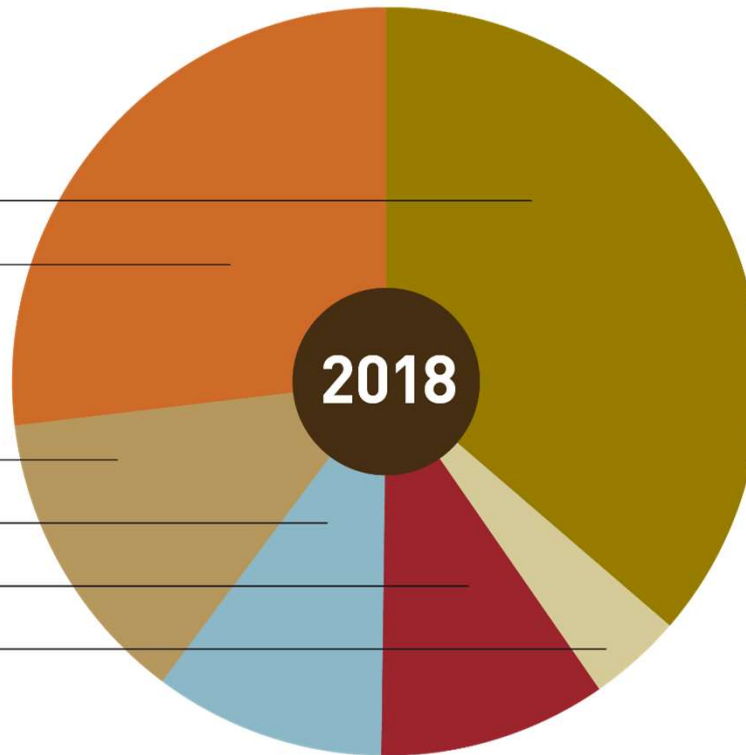
Global Health **\$1,345,000**

Global Growth & Opportunity **\$646,000**

United States Program **\$493,000**

Global Policy & Advocacy **\$501,000**

Other Charitable Programs **\$203,000**



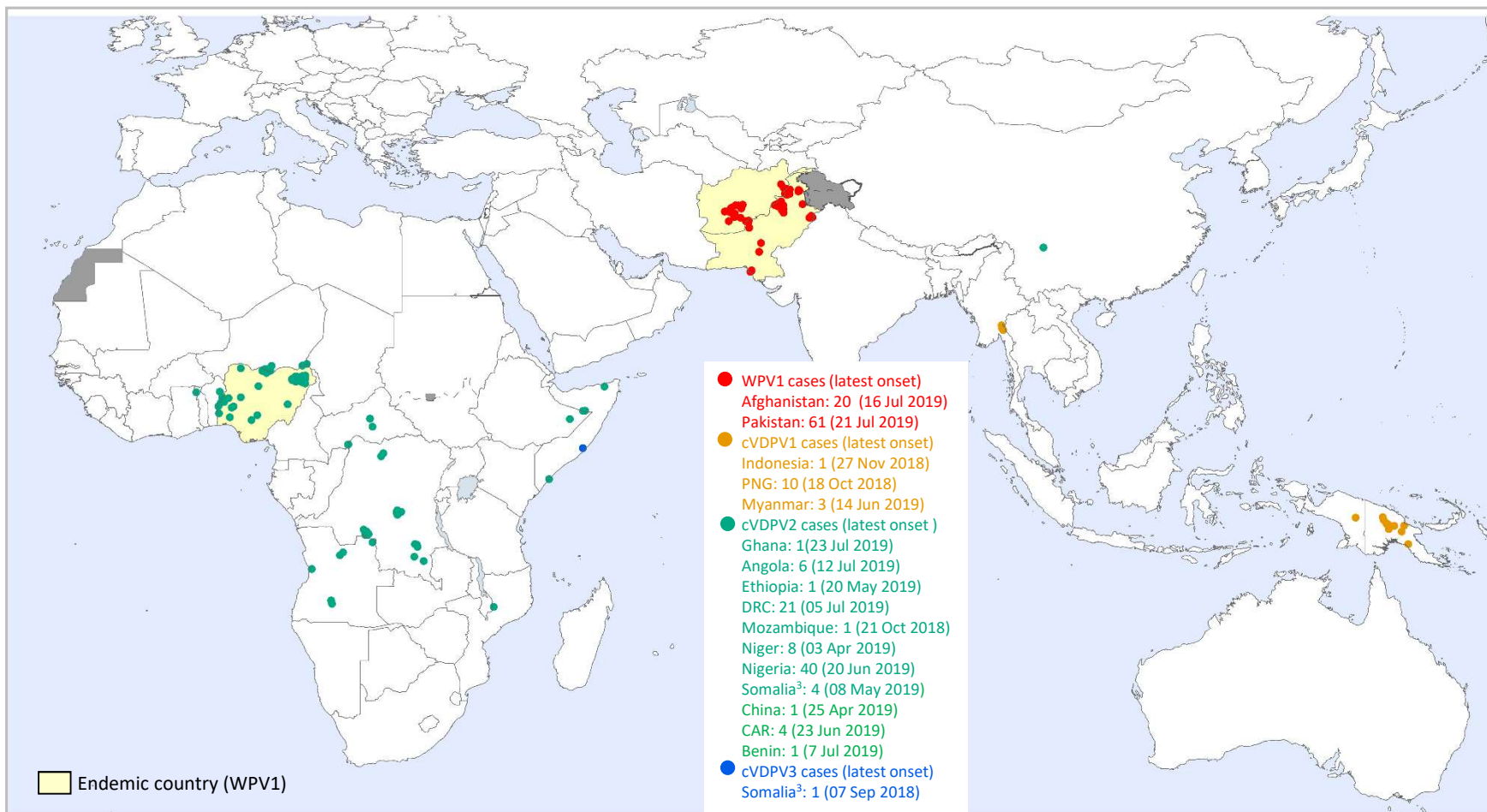
For the year ended December 31, 2018. Amounts in thousands of U.S. dollars.

■ WHERE WE WORK

From our headquarters in Seattle to our teams based in regional offices across four continents, we work with partners around the globe to improve people's lives.



Global WPV1 & cVDPV Cases¹, Previous 12 Months²



¹Excludes viruses detected from environmental surveillance; ²Onset of paralysis 21 August 2018 – 20 August 2019; ³Include one case of co-infection with Type 2 and 3

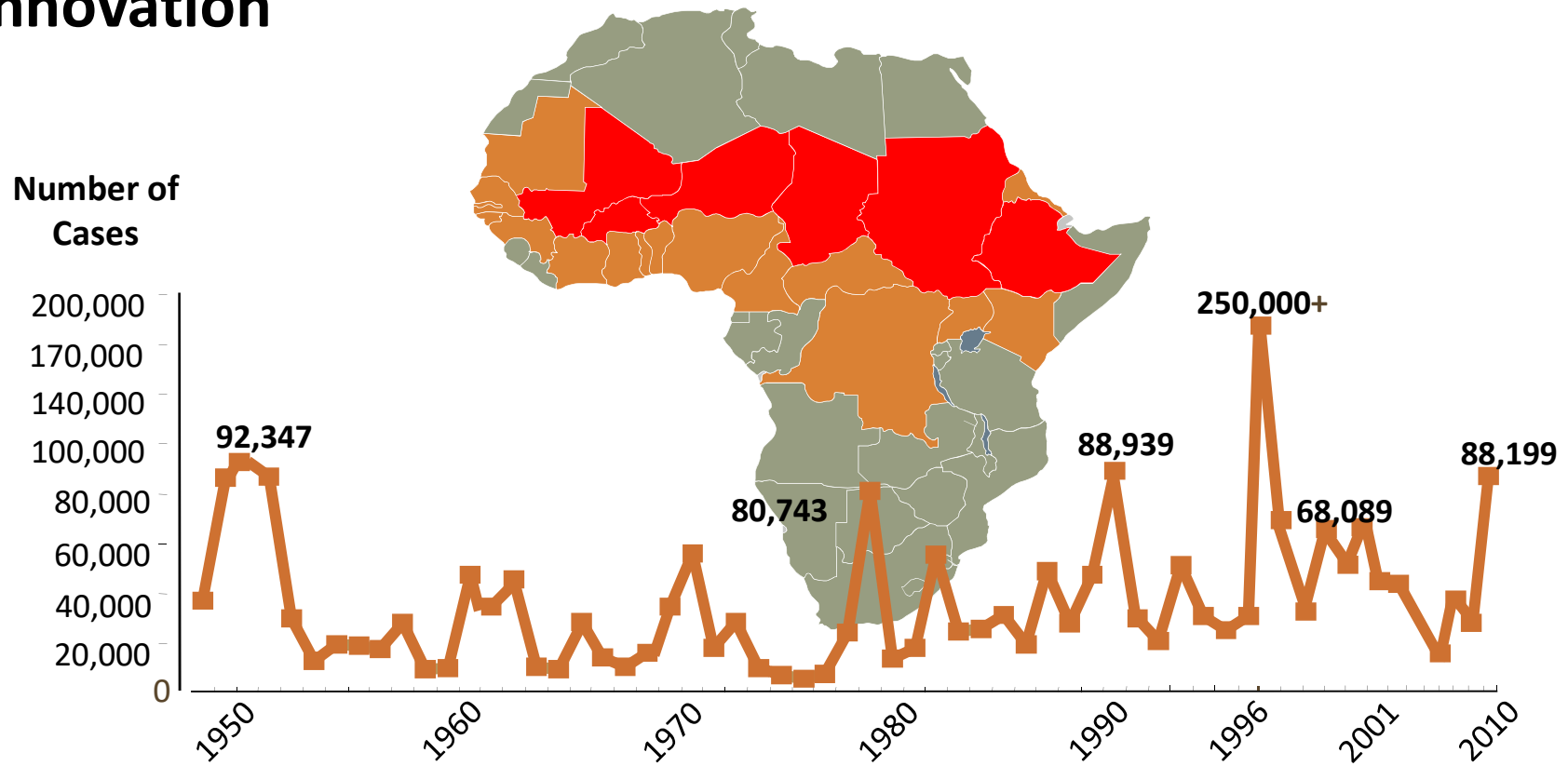
■ Africa's "Meningitis Belt"

- Africa's meningitis belt is composed of 21 countries
- 16 of these countries rank among the bottom 30 nations in regard to per capita income
- With the exception of Kenya, none of the countries have a health care coverage rate above 45% of their population.
- Neonatal mortality and maternal mortality rates rank at the bottom of global health indexes
- For the vast majority of the population, immunization against meningitis is their best hope of avoiding death and disability caused by infection

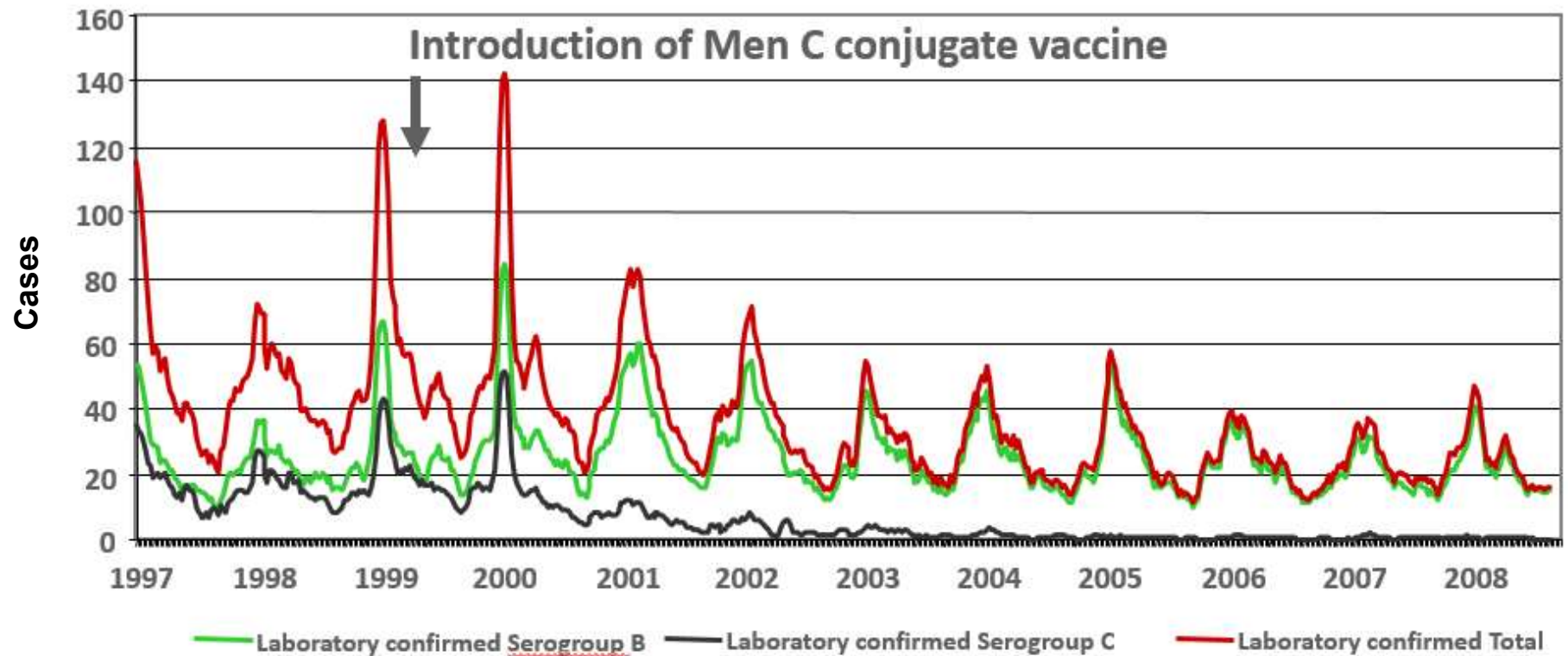


A typical rural clinic in the Sahel, which offers little hope for children and adults suffering from acute meningitis.

■ Meningitis in Sub-Saharan Africa: The Inequity of Innovation



■ Meningitis in England & Wales





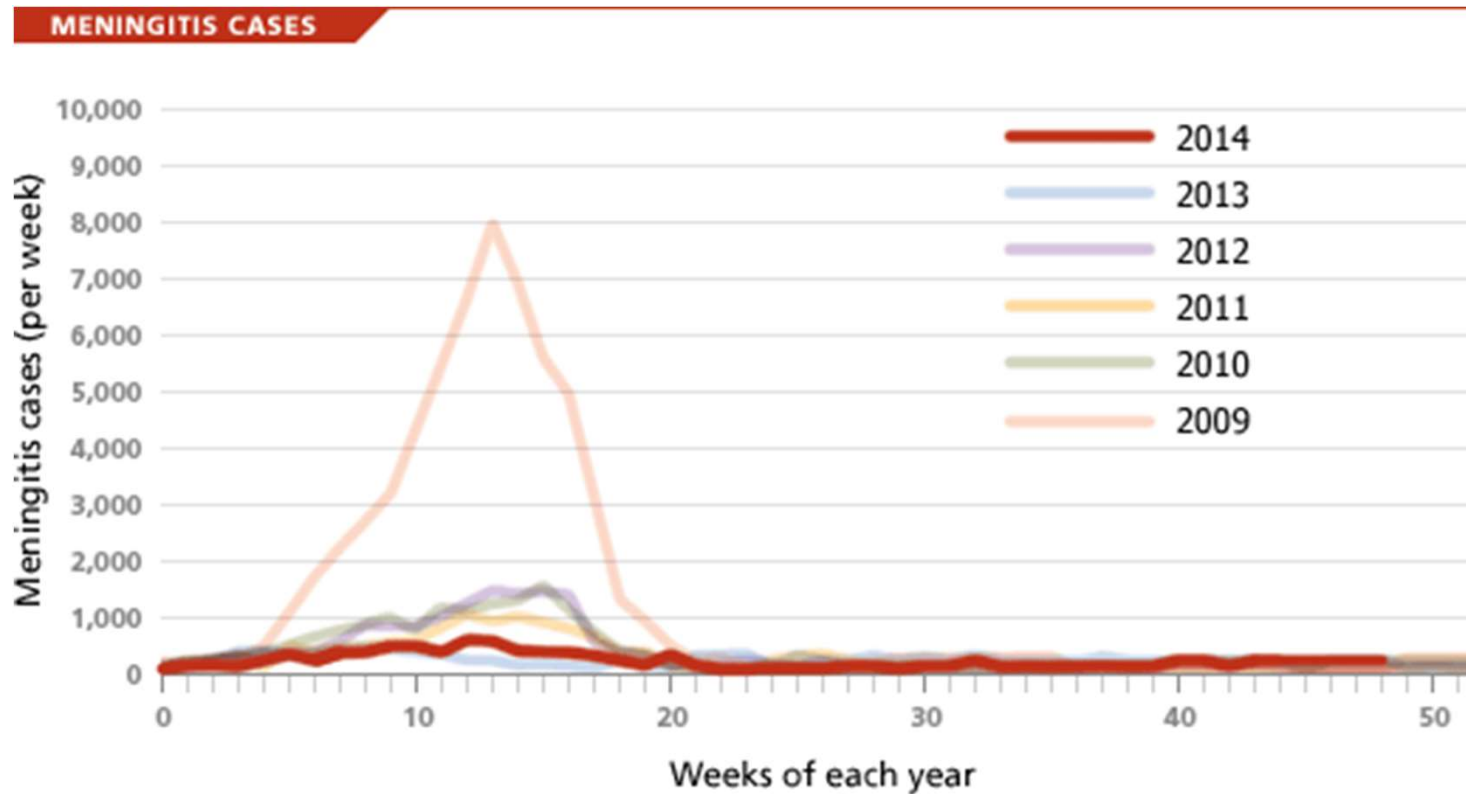
“A vaccine that Africa cannot afford *would be worse* than no vaccine at all.”

-African Ministers of Health

■ Meningitis Vaccine Project Partnership



■ MenAfriVac® Roll-Out: Cases by Week (2010-2016)





■ The Power of Partnership

- Over 10 years this strategy has prevented
 - **1.3 million** cases
 - **130,000** deaths
 - **250,000** cases of disability
- Free up public health resources currently used annually to combat meningitis epidemics
- Remove financial drain on families and communities from epidemics





United^{we} defeat malaria in Asia and the Pacific

August 2019





ASIA PACIFIC LEADERS
MALARIA ALLIANCE
MALARIA ELIMINATION ROADMAP

TO SAVE MORE THAN A MILLION LIVES AND
DELIVER US\$300 BILLION IN BENEFITS

A collage of four photographs showing diverse people: a man and woman smiling, a group of children, a woman holding a child, and a woman in a green shirt.

aplma
ASIA PACIFIC LEADERS
MALARIA ALLIANCE

FINAL

The cover of the "Asia Pacific Leaders Malaria Alliance Malaria Elimination Roadmap" features a blue background with a map of the Asia-Pacific region. The title is in white and orange text. Below the title is a tagline in orange text. The cover includes a collage of four photographs showing diverse people. At the bottom, the APLMA logo is displayed, and a blue diagonal banner in the bottom right corner reads "FINAL".

THE APLMA / APMEN STRATEGY

STRATEGIC GOAL

To achieve substantial, sustainable progress toward an Asia Pacific Free of Malaria by 2030 by bolstering country leadership, benchmarking progress, and brokering policy, technical and financing solutions

1

LEADERSHIP

There is more demonstrable, more broad-based leadership commitment to eliminate malaria, spanning Asia Pacific

2

COUNTRY SUPPORT

Targeted national programs have adopted more effective and evidence-based strategies and interventions that are suited to malaria elimination in Asia Pacific

3

FINANCING

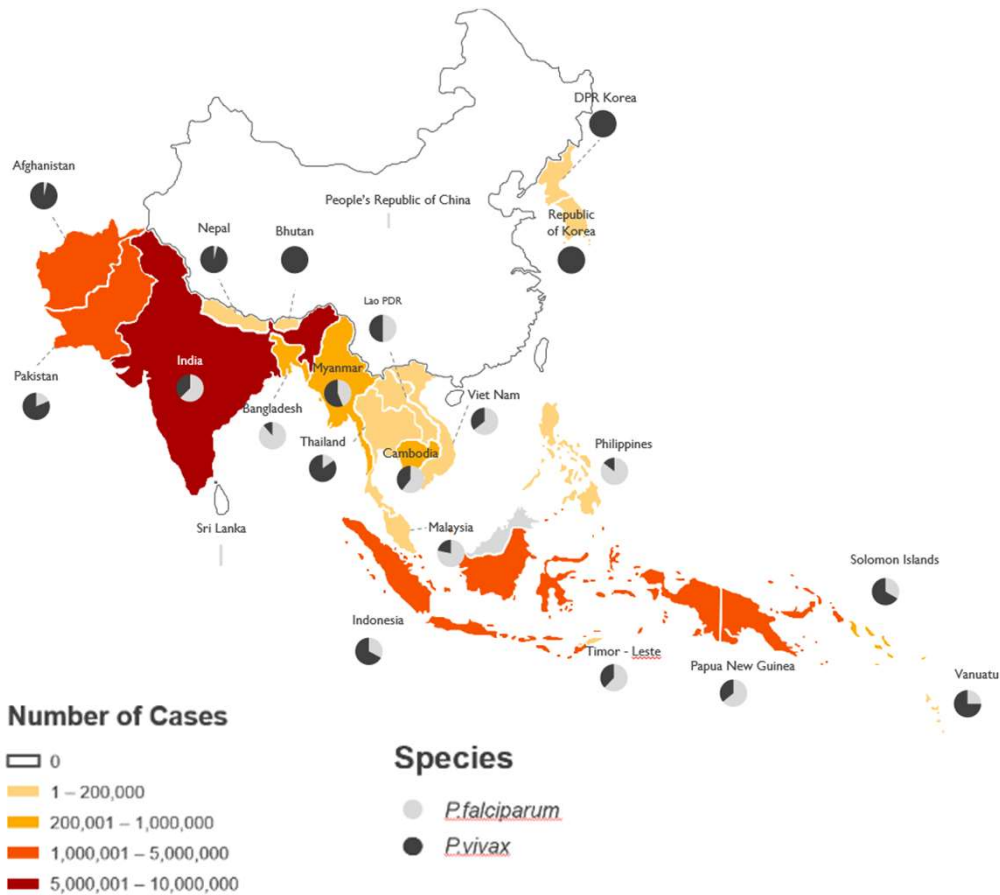
Financing for malaria is increased for Asia Pacific in 2020-2022.

4

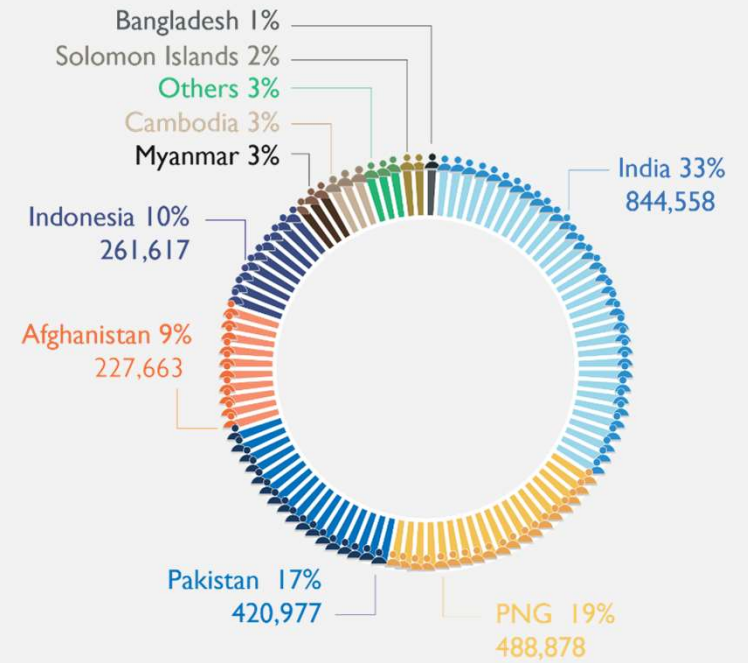
ACCESS

Increased access to quality assured priority malaria commodities in at least five countries by 2022

ASIA PACIFIC OVERVIEW



INDIGENOUS MALARIA CASES IN ASIA PACIFIC



SOURCE: WORLD MALARIA REPORT 2018

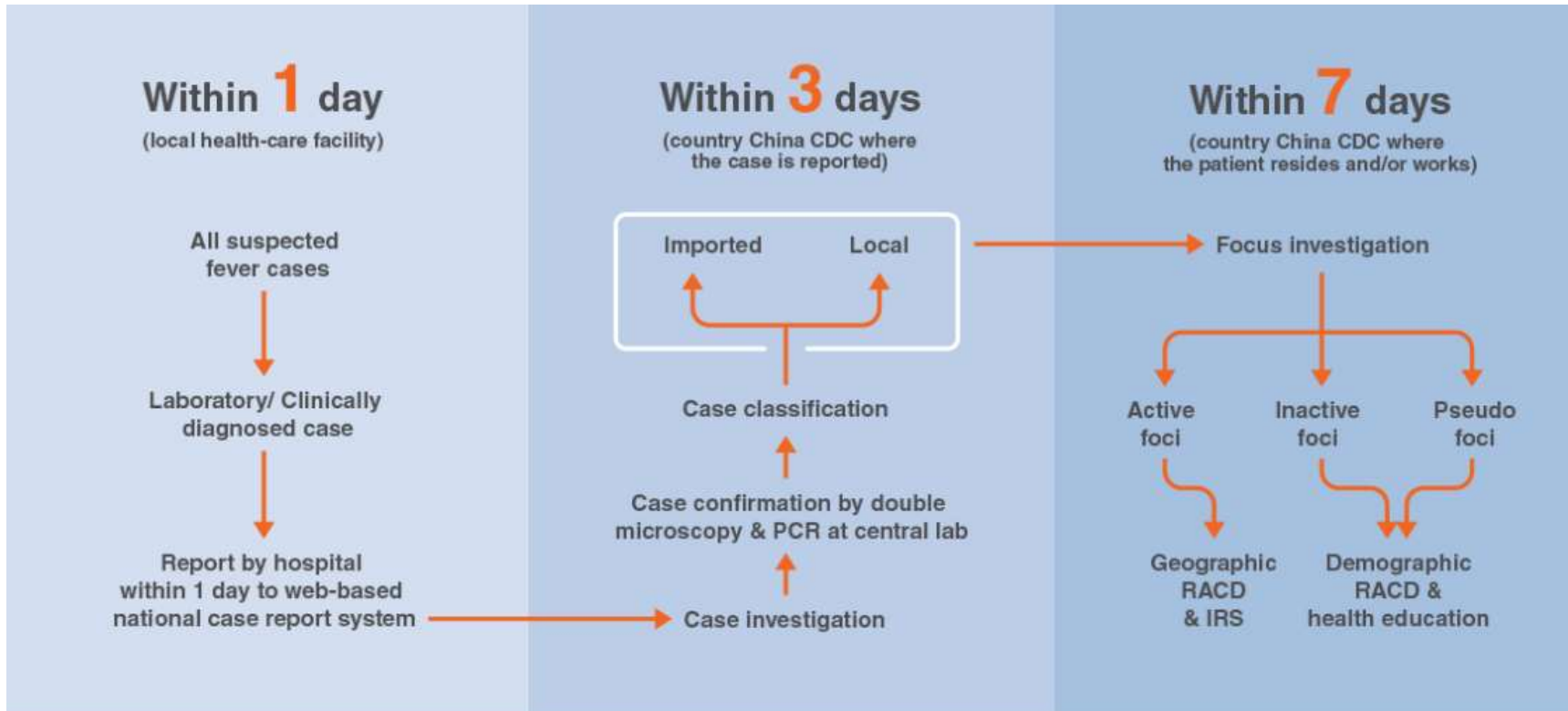
APLMA SCORECARD

Country	Status	Progress towards elimination			Operational efforts and regional action		Map, prevention, test and treat the disease, everywhere		Create high quality malaria tests, medicines, nets and insecticides	Improve up to date stratification
		Country program status <input type="checkbox"/>	Indigenous malaria deaths 2017 <input type="checkbox"/>	Indigenous malaria cases 2017 <input type="checkbox"/>	Administrative units free of malaria in 2017 (%) <input type="checkbox"/>	Functional elimination task force (or equivalent) in place <input type="checkbox"/>	Costed malaria elimination plan in place and adopted <input type="checkbox"/>	Case reporting from all providers <input type="checkbox"/>	Legislation in place to make malaria a notifiable disease within 24-48hrs <input type="checkbox"/>	Formal quality monitoring system implemented to ensure the quality of antimalarial commodities and other priority products. <input type="checkbox"/>
Afghanistan	Moving to Elimination	10	227,663	0			2020	2022	2020	
Bangladesh	Moving to Elimination	13	29,226	80	2020		2021			
Bhutan	E2020	0	11	90	2019					
Cambodia	Moving to Elimination	1	76,804	0	2020			No date set		
China	E2020	0	0	100						
DPR Korea	Moving to Elimination	0	4,575	27	No date set					
India	Moving to Elimination	194	844,558	0			No date set	No date set		
Indonesia	Moving to Elimination	47	261,617	52						
Lao PDR	Moving to Elimination	2	12,349	6	2019			2019		
Malaysia	E2020	1	85	93						
Myanmar	Moving to Elimination	30	85,019	0	2019		2020	2019		
Nepal	E2020	0	1,072	61	2019		2019	2019		
Pakistan	Moving to Elimination	113	420,977	3	2020	2020		2020	2019	
Papua New Guinea	Moving to Elimination	273	488,878	0	2019	2021	No date set	2020		2020
Philippines	Moving to Elimination	3	4,007	98						
Republic of Korea	E2020	0	436	83						
Solomon Islands	Moving to Elimination	27	52,483	10	2021	2021	No date set	2022		2022
Sri Lanka	Malaria Free		0	100						
Thailand	Moving to Elimination	11	7,420	47						
Timor-Leste	E2020	0	16	69	2019		2019			
Vanuatu	Moving to Elimination	0	1,227	33	2019			2020	2022	
Vietnam	Moving to Elimination	5	4,548	37	2020		2020			
Data Source	WHO	WMR 2018 Annex 3-J	WMR 2018 (total - imported for countries with case investigation)	WMR 2018 Country Profile	Country Programs	Country Programs	Country Programs	Country Programs	Country Programs	Country Programs

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THE I-3-7 APPROACH TO MALARIA ELIMINATION



APLMA Senior Officials' Meeting 2019



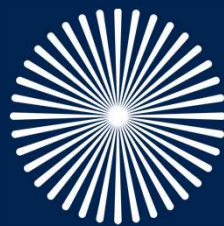
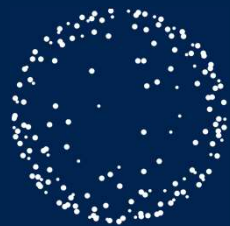
10 YEARS OF APMEN



- **Established in 2009** to focus attention on the work of malaria elimination in Asia Pacific
- **Laid strong foundation** for endorsement of malaria elimination as a goal at the 10th East Asia Summit in 2015
- **Multisectoral network** with partners from Government, academia, research institutes, NGOs
- **Strong partnerships**
 - ✓ Complementary role with WHO
 - ✓ Greater integration with APLMA
- **Evolving role** in the region

The Coalition for Epidemic Preparedness Innovations

CEPI



July 2019

THE COALITION FOR EPIDEMIC PREPAREDNESS INNOVATIONS: A GLOBAL PARTNERSHIP





Mission

CEPI accelerates development of vaccines against emerging infectious diseases and enables equitable access to these vaccines for affected populations during outbreaks

GLOBAL IMPACT OF EPIDEMICS: ECONOMIC COSTS

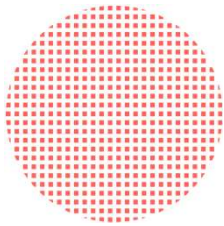
\$570
bn

The estimated annual global cost of moderately severe to severe pandemics (Fan VY, et al, NBER 2016)

\$2.8 bn

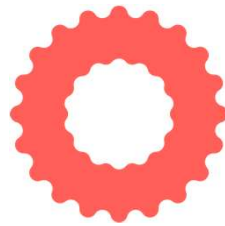
The minimum average cost for progressing one vaccine against each of WHO's 11 priority epidemic infectious diseases (Gouglas D, et al. Lancet 2018)

Our strategic objectives



Preparedness

Advance access to safe and effective vaccines against emerging infectious diseases



Response

Accelerate the research, development and use of vaccines during outbreaks



Sustainability

Create durable and equitable solutions for outbreak response capacity

CEPI's initial priority pathogens



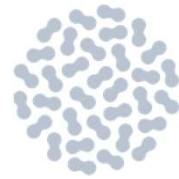
MERS



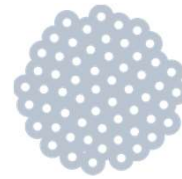
Lassa



Nipah



Chikungunya



Rift Valley
fever



Disease X

15 partnership agreements signed

Themis Bioscience	Lassa & MERS vaccines	Up to \$37.5million
Inovio Pharmaceuticals	Lassa & MERS vaccines	Up to \$56.0million
International AIDS Vaccine Initiative	Lassa vaccine	Up to \$54.9million
Emergent Biosolutions & PATH	Lassa vaccine	Up to \$36.0million
Profectus Biosciences, Emergent Biosolutions & PATH	Nipah vaccine	Up to \$25.0million
IDT Biologika	MERS vaccine	Up to \$36.0million
Janssen Vaccines & University of Oxford	MERS, Lassa and Nipah vaccine	Up to \$19.0million
University of Tokyo	Nipah vaccine	Up to \$31.0million
Imperial College London	saRNA platform (Rabies, Marburg, 'Flu)	Up to \$8.4million
University of Queensland	Molecular clamp platform (MERS, RSV, 'Flu)	Up to \$10.6million
CureVac	RNA platform (Rabies, Yellow Fever, Lassa)	Up to \$34.0million
Themis Bioscience	Chikungunya vaccine	Up to \$21.0 million
Wageningen Bioveterinary Research	Rift Valley fever vaccine	Up to \$12.5million
Colorado State University	Rift Valley fever vaccine	Up to \$9.5 million
Valneva SE	Chikungunya vaccine	Up to \$23.4 million

Strategy summary



World Mosquito Program™

Strategy summary
2018 – 2022
Version 12

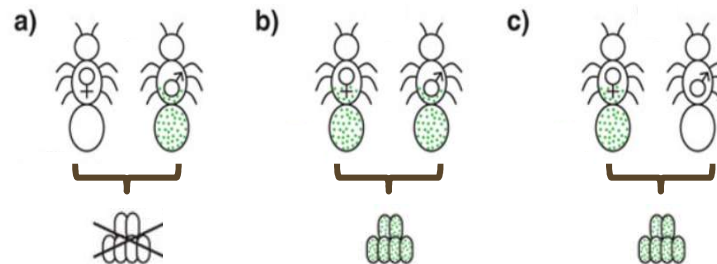


WHAT IS *WOLBACHIA*?

- Naturally occurring bacteria
- Lives inside insect cells
- Transmitted from adult to offspring through the insect's eggs
- Cannot be transmitted to warm-blooded animals
- Safe for humans, animals and the environment



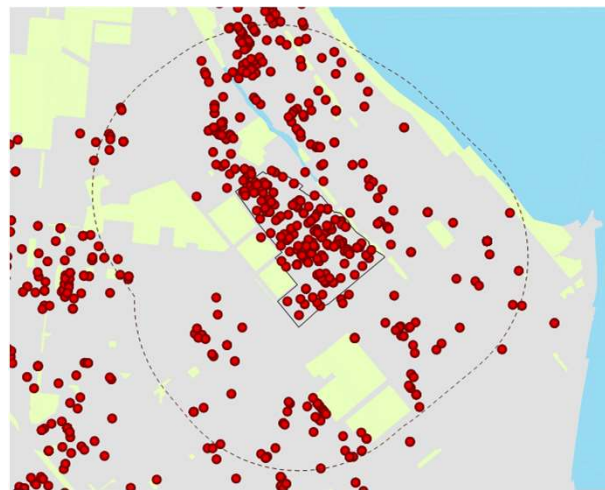
Cytoplasmic Incompatibility



*Not genetic modification, not sterile male release, not species eradication
This is a biologically modified replacement strategy for *Aedes Aegypti**

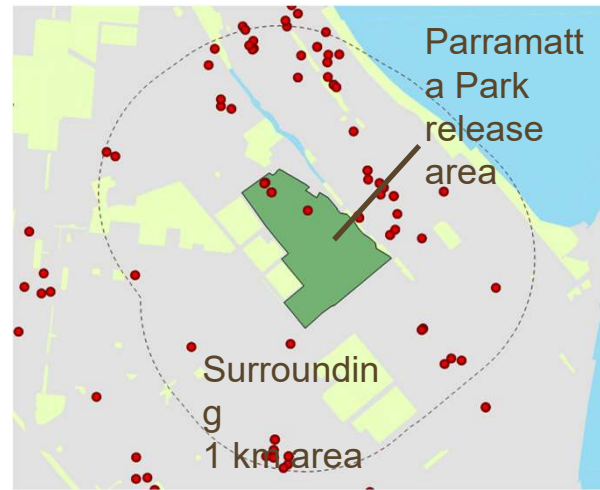
■ DENGUE CASES IN PARRAMATTA PARK: BEFORE AND AFTER *WOLBACHIA* RELEASE

Spatial and temporal uncoupling of residual infections.



Pre-release period (Jan 1995 – Dec 2012)

34% of cases in Parramatta Park



Post-release period (May 2013 – Dec 2015)

4% of cases in Parramatta Park

Wolbachia Mosquitos - Current project sites



WE ENVISION A
WORLD WHERE

**EVERY
PERSON**

HAS THE OPPORTUNITY
TO LIVE A HEALTHY,
PRODUCTIVE LIFE



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